

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:

DANILO PORRO  
MICHAEL SAUER

SERIAL NO.: 10/606,302

FILED: JUNE 25, 2003

FOR: ASCORBIC ACID PRODUCTION FROM  
YEAST

CONFIRMATION NO.: 4661

GROUP ART UNIT: 1636

EXAMINER: MICHELE K. JOIKE

ATTORNEY DOCKET: 2028.594096/RFE  
(2005941)

CUSTOMER NO. 23720

**DECLARATION OF BIOLOGICAL CULTURE DEPOSIT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

I, Danilo Porro, one of the named co-inventors of the application referenced above,  
hereby declare that:

1. I have deposited on July 31, 2000 with the NRRL the following materials referred  
to in the specification of the above-referenced application.

TAXONOMIC DESCRIPTION

DEPOSIT NUMBER

S. cerevisiae GRF18U

NRRL Y-30320

2. The date of the above deposit is on or before the US filing date of this application.
3. The name and address of the depository is:

Agricultural Research Service Culture Collection (NRRL)

Microbial Genomics and Bioprocessing Research Unit

National Center for Agricultural Utilization Research

1815 North University Street

Peoria, Illinois 61604

USA

4. On June 27, 2003, on my behalf, Chi-Li Liu of Tate & Lyle Ingredients Americas deposited with the NRRL the following material referred to in the specification of the above-referenced application. The name and address of NRRL have been given above.

TAXONOMIC DESCRIPTION

DEPOSIT NUMBER

*Zygosaccharomyces bailii* ATCC

NRRL Y-30671

60483

5. The biological material deposited on June 27, 2003 is biological material specifically identified in the application as filed.

6. On June 24, 2008, on my behalf, Chi-Li Liu of Tate & Lyle Ingredients Americas deposited with the NRRL the following materials referred to in the specification of the above-referenced application. The name and address of NRRL have been given above.

TAXONOMIC DESCRIPTION

DEPOSIT NUMBER

*Saccharomyces cerevisiae* ATCC

NRRL Y-50148

201238

*Kluyveromyces lactis* PM6-7A

NRRL Y-50149

7. The biological material deposited on June 24, 2008 is biological material specifically identified in the application as filed. *Saccharomyces cerevisiae* ATCC 201238 is an alternate name for *Saccharomyces cerevisiae* W3031B.

8. With respect to the permanence of the culture deposit:

- a. the depository is an official depository in accordance with the Budapest Treaty for the above deposited cultures;
- b. the depository affords permanence of the deposit for at least 30 years or at least 5 years after the most recent storage request, whichever is longest; and
- c. evidence that permanent availability of the microorganism is assured is provided in the form of the attached copy of the contract with the above-mentioned depository with respect to the deposited cultures.

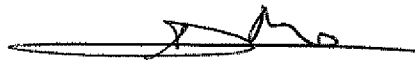
9. I affirm that should the microorganisms mutate, become nonviable or be inadvertently destroyed, I will replace such microorganisms for at least 30 years from the date of the original deposit, or at least 5 years from the date of the most recent request for release of a sample or for the life of any patent issued on the above-mentioned application, plus six (6) years to cover the statute of limitations, whichever period is longer.

10. With respect to availability of the cultures, I affirm that the deposit has been made under conditions of assurance set forth below and that I bind myself to such conditions:

- a. ready accessibility thereto by the public if a patent is granted whereby all restrictions to the availability to the public of the culture so deposited will be irrevocably removed upon the granting of the patent (MPEP 608.01 (p)); and

- b. access to the culture will be available during pendency of the patent application to one determined by the Commissioner to be entitled thereto under 37 C.F.R. § 1.14 and 35 U.S.C. § 122. Evidence of the accessibility of the cultures as set forth above is provided in the form of the attached copy of the contract with the above-mentioned depository with respect to the deposited cultures.

11. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



Danilo Porro, Inventor

Date: July, 28th, 2008

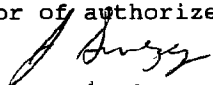
BUDAPEST TREATY ON THE INTERNATIONAL  
RECOGNITION OF THE DEPOSIT OF MICROORGANISMS  
FOR THE PURPOSE OF PATENT PROCEDURES

INTERNATIONAL FORM

TO  
A. E. Staley Manufacturing Co.  
2200 E. Eldorado Street  
Decatur, IL 62525

RECEIPT IN THE CASE OF AN ORIGINAL DEPOSIT  
issued pursuant to Rule 7.1 by the  
INTERNATIONAL DEPOSITARY AUTHORITY  
identified at the bottom of this page

NAME AND ADDRESS  
OF DEPOSITOR

<b>I. IDENTIFICATION OF THE MICROORGANISM</b>	
Identification reference given by the DEPOSITOR:  <i>Saccharomyces cerevisiae</i> ST-1 (GRFISU)	Accession number given by the INTERNATIONAL DEPOSITARY AUTHORITY:  NRRL Y-30320
<b>II. SCIENTIFIC DESCRIPTION AND/OR PROPOSED TAXONOMIC DESIGNATION</b>	
The microorganism identified under I. above was accompanied by:	
<input type="checkbox"/> a scientific description	
<input checked="" type="checkbox"/> a proposed taxonomic designation	
(Mark with a cross where applicable)	
<b>III. RECEIPT AND ACCEPTANCE</b>	
This International Depositary Authority accepts the microorganism identified under I. above, which was received by it on July 31, 2000 (date of the original deposit) <sup>1</sup>	
<b>IV. RECEIPT OF REQUEST FOR CONVERSION</b>	
The microorganism identified under I. above was received by this International Depositary Authority on _____ (date of the original deposit) and a request to convert the original deposit to a deposit under the Budapest Treaty was received by it on _____ (date of receipt of request for conversion).	
<b>V. INTERNATIONAL DEPOSITARY AUTHORITY</b>	
Name: Agricultural Research Culture Collection (NRRL) International Depositary Authority  Address: 1815 N. University Street Peoria, Illinois 61604 U.S.A.	Signature(s) of person(s) having the power to represent the International Depositary Authority or of authorized official(s):   Date: 10-25-00

<sup>1</sup> Where Rule 6.4(d) applies, such date is the date on which the status of international depositary authority was acquired.

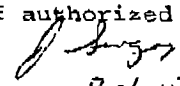
BUDAPEST TREATY ON THE INTERNATIONAL  
RECOGNITION OF THE DEPOSIT OF MICROORGANISMS  
FOR THE PURPOSE OF PATENT PROCEDURES

## INTERNATIONAL FORM

TO  
Patent Dept.  
A. E. Staley Co.  
2200 E. Eldorado St.  
Decatur, IL 62525

NAME AND ADDRESS  
OF DEPOSITOR

RECEIPT IN THE CASE OF AN ORIGINAL DEPOSIT  
issued pursuant to Rule 7.1 by the  
INTERNATIONAL DEPOSITARY AUTHORITY  
identified at the bottom of this page

<b>I. IDENTIFICATION OF THE MICROORGANISM</b>	
Identification reference given by the DEPOSITOR: <i>Zygosaccharomyces bailii</i> St-29	Accession number given by the INTERNATIONAL DEPOSITARY AUTHORITY:  NRRL Y-30671
<b>II. SCIENTIFIC DESCRIPTION AND/OR PROPOSED TAXONOMIC DESIGNATION</b>	
The microorganism identified under I. above was accompanied by:	
<input type="checkbox"/> a scientific description	
<input checked="" type="checkbox"/> a proposed taxonomic designation	
(Mark with a cross where applicable)	
<b>III. RECEIPT AND ACCEPTANCE</b>	
This International Depositary Authority accepts the microorganism identified under I. above, which was received by it on June 27, 2003 (date of the original deposit) <sup>1</sup>	
<b>IV. RECEIPT OF REQUEST FOR CONVERSION</b>	
The microorganism identified under I. above was received by this International Depositary Authority on (date of the original deposit) and a request to convert the original deposit to a deposit under the Budapest Treaty was received by it on (date of receipt of request for conversion).	
<b>V. INTERNATIONAL DEPOSITARY AUTHORITY</b>	
Name: Agricultural Research Culture Collection (NRRL) International Depositary Authority  Address: 1815 N. University Street Peoria, Illinois 61604 U.S.A.	Signature(s) of person(s) having the power to represent the International Depositary Authority or of authorized official(s):  Date: 8-6-03

<sup>1</sup> Where Rule 6.4(d) applies, such date is the date on which the status of international  
depositary authority was acquired.

BUDAPEST TREATY ON THE INTERNATIONAL RECOGNITION OF THE DEPOSIT  
OF MICROORGANISMS FOR THE PURPOSE OF PATENT PROCEDURES

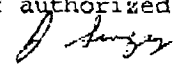
INTERNATIONAL FORM

TO  
Patent Dept.  
A.E. Staley Co.  
2200 E. Eldorado St.  
Decatur, IL 62525

VIABILITY STATEMENT

issued pursuant to Rule 10.2 by the  
INTERNATIONAL DEPOSITARY AUTHORITY  
identified at the bottom of this page

NAME AND ADDRESS OF THE PARTY TO WHOM  
THE VIABILITY STATEMENT IS ISSUED

I. DEPOSITOR	II. IDENTIFICATION OF THE MICROORGANISM
Name: Patent Dept. A.E. Staley Co. 2200 E. Eldorado St. Address: Decatur, IL 62525	Depositor's taxonomic designation and accession number given by the INTERNATIONAL DEPOSITARY AUTHORITY: <i>Zygosaccharomyces bailii</i> NRRL Y-30671 Date of: June 27, 2003 <input checked="" type="checkbox"/> <sup>2</sup> Original Deposit <input type="checkbox"/> <sup>2</sup> New Deposit <input type="checkbox"/> <sup>2</sup> Repropagation of Original Deposit
III. (a) VIABILITY STATEMENT	
Deposit was found: <input checked="" type="checkbox"/> Viable <input type="checkbox"/> Nonviable on (Date) June 30, 2003 International Depositary Authority's preparation was found viable on (Date) <sup>1</sup> July 26, 2003	
III. (b) DEPOSITOR'S EQUIVALENCY DECLARATION	
Depositor determined the International Depositary Authority's preparation was <input checked="" type="checkbox"/> <sup>2</sup> Equivalent <input type="checkbox"/> <sup>2</sup> Not equivalent to deposit on <u>Sept 8, 2003</u> (Date) Signature of Depositor <u>Christine for A.E. Staley Co./Tate &amp; Lyle</u>	
IV. CONDITIONS UNDER WHICH THE VIABILITY TEST WAS PERFORMED (Depositors/Depositary) <sup>1</sup>	
V. INTERNATIONAL DEPOSITARY AUTHORITY	
Name: Agricultural Research Culture Collection (NRRL) International Depositary Authority Address: 1815 N. University Street Peoria, Illinois 61604 U.S.A.	Signature(s) of person(s) having the power to represent the International Depositary Authority or of authorized official(s):  Date: <u>8-6-03</u>

<sup>1</sup> Indicate the date of the original deposit or when a new deposit has been made.

<sup>2</sup> Mark with a cross the applicable box.

<sup>3</sup> In the cases referred to in Rule 10.2(a)(ii) and (iii), refer to the most recent viability test.

<sup>4</sup> Fill in if the information has been requested.

AGRICULTURAL RESEARCH SERVICE CULTURE COLLECTION (NRRL)  
(International Depositary Authority)

9-50148

National Center for Agricultural Utilization Research  
Agricultural Research Service, U.S. Department of Agriculture  
1815 North University Street, Peoria, Illinois 61604 U.S.A.

ADDRESS SHIPMENTS AND FORMS TO MR. J. L. SWEZEY AT ABOVE ADDRESS  
MICROORGANISM DEPOSIT UNDER THE BUDAPEST TREATY ON THE INTERNATIONAL RECOGNITION  
OF THE DEPOSIT OF MICROORGANISMS FOR THE PURPOSES OF PATENT PROCEDURE (Budapest  
'Treaty)

THIS BOX FOR NRRL USE ONLY	
Date and Nature of Material Received:	
Date Deposit Accessioned:	
as NRRL No.:	
* (Contingent on depositor's verifying acceptability of Agricultural Research Service Culture Collection (NRRL)'s processed material as equivalent to original material deposited)	

## DEPOSIT STATEMENT

## THIS FORM MUST BE COMPLETED IN ENGLISH

[Our present policies are stated in Industrial Property No. 1, pp. 24-25 (1983)]

1. Name of Microorganism and Depositor's Strain Designation (acronym, sigla, abbreviation + number, symbols)

Saccharomyces cerevisiae ATCC 201238

This microorganism is: a bacterium ☐ 9, an *Actinomycetales* ☐ 9, a mold ☐ 9, a yeast ☒ 9, an alga ☐ 9, a strain containing recombinant DNA molecules ☐ 9, a strain containing its own naturally occurring plasmid(s) ☐ 9, a strain containing inserted naturally occurring plasmid(s) from another host ☐ 9, a strain containing inserted constructed plasmid(s) a strain containing a virus of any kind ☐ 9.

2. Is this strain being deposited under the Budapest Treaty? ☒ Yes ☐ No

3. Name and Address of

Depositor: \* CHI-LI LIU, Ph.D.

A. E. Staley Manufacturing Company / Tate & Lyle Ingredients  
2200 E. Eldorado St.

Decatur, IL 62521 ; phone # 217-421-2871 ; E-mail: chi-li.liu@tateandlyle.com  
fax # 217-421-2917

- \* Viability test reports and other correspondence will be sent to above party. Our processed material from the original deposit will be sent to above party for checking. If there is no response within 3 months from date of shipment, our processed material will be considered equivalent to the original deposit in terms of viability and performance attributed to the strain.



4. Indicate the properties of the microorganism which are or may be dangerous to health or the environment, or indicate that the depositor is not aware of such properties.

Not aware of such properties

5. Is this strain zoopathogenic? Yes ☒ No ☐ phytopathogenic? Yes ☐ No ☐

6. Recommended Conditions for Optimal Cultivation of the Microorganism and for Testing Its Viability:\*

YPD: 2% glucose + 2% peptone + 1% Yeast Extract at 28-30°C  
or YM Broth (Difco)

\* Progeny of strains will be preserved at the Agricultural Research Service Culture Collection (NRRL) as lyophilized preparations, frozen preparations (liquid nitrogen vapor phase), or, in some cases, as agar slant cultures overlaid with mineral oil. All lyophilized or slant materials will be stored at 3-5EC.

7. \* Lowest permissible NIH\*\* (U.S.A.) Physical Containment level for processing and viability testing (☒ P1, P2, P3, P4):  
 Lowest permissible CDC\*\*\* (U.S.A.) Biosafety level for processing and viability testing (☒ 1, 2, 3, 4):

\* The Agricultural Research Service Culture Collection (NRRL) can, at present, process progeny of strains **only at Physical Containment level P1 or Biosafety Level 1 or less.**

\*\* U.S. Department of Health and Human Services, National Institutes of Health, Bethesda, Maryland 20205, U.S.A., November 1980. Guidelines for Research Involving Recombinant DNA Molecules.

\*\*\* U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, Office of Biosafety, Atlanta, Georgia 30333, U.S.A. 1980. Proposed Biosafety Guidelines for Microbiological and Biomedical Laboratories.

8. Are you willing to waive the right to be informed of all requests for progeny of this strain? (This is allowed under the Budapest Treaty but will require additional correspondence.) Yes ☐ No ☒
9. I understand and agree that the deposit may not be withdrawn by me or any representative of my organization for the period specified in Rule 9.1 of the Budapest Treaty (at least 30 years after the date of accessioning).

Date: June 20, 2008

Signature of Depositor: Chi-Li Liu

A.E. Staley Manufacturing Company/Tate & Lyle  
 (on behalf of)  
Ingredients

CHI-LI LIU  
 (Typed name of depositor)

(3)

AGRICULTURAL RESEARCH SERVICE CULTURE COLLECTION (NRRL)  
(International Depository Authority)

y-50149

National Center for Agricultural Utilization Research  
Agricultural Research Service, U.S. Department of Agriculture  
1815 North University Street, Peoria, Illinois 61604 U.S.A.

ADDRESS SHIPMENTS AND FORMS TO MR. J. L. SWEZEY AT ABOVE ADDRESS  
MICROORGANISM DEPOSIT UNDER THE BUDAPEST TREATY ON THE INTERNATIONAL RECOGNITION  
OF THE DEPOSIT OF MICROORGANISMS FOR THE PURPOSES OF PATENT PROCEDURE (Budapest  
Treaty)

THIS BOX FOR NRRL USE ONLY

Date and Nature of Material Received:

Date Deposit Accessioned:

as NRRL No. \*

\*(Contingent on depositor's verifying acceptability of Agricultural Research Service Culture Collection  
(NRRL)'s processed material as equivalent to original material deposited)

DEPOSIT STATEMENT

THIS FORM MUST BE COMPLETED IN ENGLISH

[Our present policies are stated in Industrial Property No. 1, pp. 24-25 (1983)]

1. Name of Microorganism and Depositor's Strain Designation (acronym, sigla, abbreviation + number, symbols)

Kluyveromyces Lactis PM6-7A

This microorganism is: a bacterium 9, an *Actinomycetales* 9, a mold 9, (a yeast) 9, an alga 9, a strain containing recombinant DNA molecules 9, (a strain containing its own naturally occurring plasmid(s)) 9, a strain containing inserted naturally occurring plasmid(s) from another host 9, a strain containing inserted constructed plasmid(s) a strain containing a virus of any kind 9.

2. Is this strain being deposited under the Budapest Treaty? (Yes) 9 No 9

3. Name and Address of

Depositor: \* CHI-LI LIU, Ph.D.

A. F. Staley Manufacturing Company / Tate & Lyle Ingredients

2200 E. Eldorado St.

Decatur, IL 62521; phone # 217-421-2871; E-mail: chi-li.liu@tateandlyle.com  
fax # 217-421-2917

- \* Viability test reports and other correspondence will be sent to above party. Our processed material from the original deposit will be sent to above party for checking. If there is no response within 3 months from date of shipment, our processed material will be considered equivalent to the original deposit in terms of viability and performance attributed to the strain.

(4)

4. Indicate the properties of the microorganism which are or may be dangerous to health or the environment, or indicate that the depositor is not aware of such properties.

Not aware of such properties

5. Is this strain zoopathogenic? Yes ☒ No ☐ phytopathogenic? Yes ☐ No ☐

6. Recommended Conditions for Optimal Cultivation of the Microorganism and for Testing Its Viability:\*

YPD: 2% glucose + 2% Peptone + 1% Yeast Extract at 28-30°C  
or YMBroth (Difco)

- \* Progeny of strains will be preserved at the Agricultural Research Service Culture Collection (NRRL) as lyophilized preparations, frozen preparations (liquid nitrogen vapor phase), or, in some cases, as agar slant cultures overlaid with mineral oil. All lyophilized or slant materials will be stored at 3-5°C.

7. \* Lowest permissible NIH\*\* (U.S.A.) Physical Containment level for processing and viability testing ☒ P1 P2, P3, P4):  
Lowest permissible CDC\*\*\* (U.S.A.) Biosafety level for processing and viability testing ☒ 1 2, 3, 4):

\* The Agricultural Research Service Culture Collection (NRRL) can, at present, process progeny of strains **only at Physical Containment level P1 or Biosafety Level 1 or less.**

\*\* U.S. Department of Health and Human Services, National Institutes of Health, Bethesda, Maryland 20205, U.S.A., November 1980. Guidelines for Research Involving Recombinant DNA Molecules.

\*\*\* U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, Office of Biosafety, Atlanta, Georgia 30333, U.S.A. 1980. Proposed Biosafety Guidelines for Microbiological and Biomedical Laboratories.

8. Are you willing to waive the right to be informed of all requests for progeny of this strain? (This is allowed under the Budapest Treaty but will require additional correspondence.) Yes ☐ No ☒
9. I understand and agree that the deposit may not be withdrawn by me or any representative of my organization for the period specified in Rule 9.1 of the Budapest Treaty (at least 30 years after the date of accessioning).

Date: June 20, 2008

Signature of Depositor: Chun-Li Liu

A.E. Staley Manufacturing Company / Tate & Lyle  
(on behalf of)

Ingredients

CHI-LI LIU

(Typed name of depositor)